

What is claimed is:

1. A crosslinked raw cord which is produced by a method comprising the steps of:

5 (A) spinning polyvinyl alcohol having a degree of polymerization of 1,000-7,000 according to a dry and wet spinning technique or a wet spinning technique, drawing the undrawn yarn to high draw ratio, and thermally treating the drawn yarn;

10 (B) twisting the polyvinyl alcohol drawn yarn to prepare a cabling yarn, and plying the cabling yarn into a 2-ply or 3-ply yarn to produce a raw cord; and

(C) crosslinking the raw cord by dipping it into the crosslinker.

15 2. A crosslinker-introducing apparatus comprising:

a bobbin for crosslinking comprising a first bobbin and a second bobbin, the first bobbin having a hollow formed therein, a plurality of through-holes formed on the circumferential surface of the first bobbin to provide a cylindrical bobbin axis on which
20 a raw cord is wound, and a coupling protrusion formed at one end of the bobbin axis, the second bobbin having a hollow formed therein, a plurality of through-holes formed on the circumferential surface of the second bobbin to provide a cylindrical bobbin axis on which the PVA raw cord is wound, and a

coupling groove formed at one end of the bobbin axis, the shape of the coupling groove corresponding to the coupling protrusion and being coupled with the coupling protrusion;

5 a first bobbin wheel which is coupled to the other end of the first bobbin axis and serves to prevent the separation of the wound PVA raw cord and to close the hollow of the bobbin for crosslinking;

10 a second bobbin wheel which is coupled to the other end of the second bobbin axis and serves to prevent the separation of the wound PVA raw cord, the second bobbin wheel having a crosslinker-feeding pipeline attached thereto, the crosslinker-feeding pipeline serving to feed a crosslinker into the inside of the hollow of the bobbin for crosslinking by pressurization or depressurization; and

15 a closed container which is charged with the crosslinker and provided in such a manner that the bobbin for crosslinking is dipped in the crosslinker.

20 3. A crosslinked raw cord which is produced by a method comprising the steps of:

(A) dissolving polyvinyl alcohol having a degree of polymerization of 1,000-7,000 and a degree of saponification of more than 97.0 mol% in dimethyl sulfoxide, spinning the solution according to a dry and wet spinning technique or a wet spinning

technique, drawing the undrawn yarn to high draw ratio, and thermally treating the drawn yarn;

(B) twisting the polyvinyl alcohol drawn yarn to prepare a cabling yarn, and plying the cabling yarn into a 2-ply or 3-ply yarn to produce a raw cord; and

(C) crosslinking the raw cord using the crosslinker-introducing apparatus of Claim 2 in an aqueous crosslinking solution containing an aromatic aldehyde compound and an acid catalyst while adding alcohol to the aqueous crosslinker solution.

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4. The crosslinked raw cord of Claim 3, wherein the alcohol added to the aqueous crosslinking solution in the step (C) is methanol.

15 5. The crosslinked raw cord of Claim 3, wherein the content of the alcohol added to the aqueous crosslinking solution in the step (C) is 1-30 wt%.

20 6. The crosslinked raw cord of Claim 3, wherein the content of the aromatic aldehyde compound crosslinked to the raw cord in the step (C) is 0.1-5.0 wt%.

7. The crosslinked raw cord of Claim 3, wherein the aromatic aldehyde crosslinked to the raw cord in the step (C) is terephthalaldicarboxaldehyde (TDA).

5 8. The crosslinked raw cord of Claim 3, wherein the acid catalyst used in the step (c) is acetic acid.

9. A treated cord for tire cords, which is produced by treating the crosslinked raw cord of Claims 1 with a dipping
10 solution (RFL) and has the following physical properties:

(1) a breaking load of 20.0-50.0 kgf; (2) a fineness of 1,000-6,000 deniers; (3) hot water resistance of at least 130 °C; and (4) a fatigue resistance of at least 80%.

15 10. A treated cord for tire cords, which is produced by treating the crosslinked raw cord of Claims 3 with a dipping solution (RFL) and has the following physical properties:

(1) a breaking load of 20.0-50.0 kgf; (2) a fineness of 1,000-6,000 deniers; (3) hot water resistance of at least 130 °C; and
20 (4) a fatigue resistance of at least 80%.